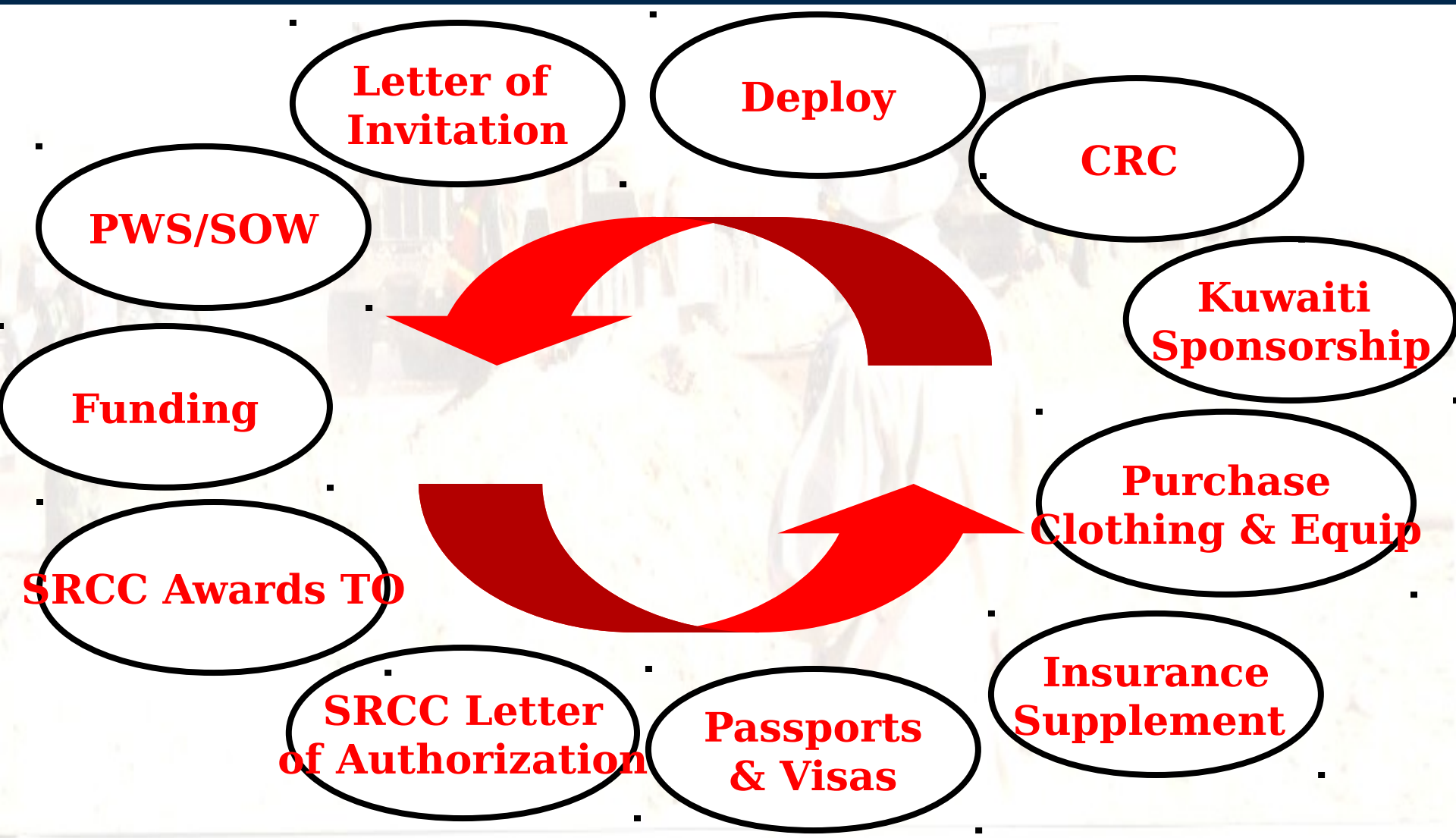
An ESSI Company

Purpose

To provide an information briefing on Radian support of Operation Iraqi Freedom (OIF).

Radian TACOM/49th Support Team

Getting Contractors Down-Range



OIF IPDS Support

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OIF IPDS Support

- QATAR Care of Supplies in Storage (COSIS) tr
- Pre-deployment training for 49th QM Grp – 10
  and technical support from Petersburg to Kuv
- 2 person team supported 416th ENCOM and 49
  during early stages of construction and setup.
- 2 person team supporting TACOM/49th QM Gr
  repairs, terminal operations, and general IPD
- Repair parts support of IPDS.

QATAR COSIS Training

- 2-man Radian team deployed from 4-21 April 2

- Conducted training on:
  - Equipment Exercise Requirements (EERs).
  - Equipment Inspection Requirements (EIRs).

- Training included: pumps, floodlights, TAUs, c
  & grooving machine, launchers, receivers, str
  PRVs, tanks, valves, pipe, filter separators.

Petersburg Technical Support

- Equipment/part location answers.
- Recommendations on flushing pipeline.
- Wiring schematics for 800 gpm pumps (Termo
- Code definitions.
- Friction losses under varying conditions.
- Question resolution (such as 650 psi vs 740 p

OIF Collapsible Tank Repair

Three Different Repair Kits Tested

- PRC-DeSoto SemKit
- Repair Outfit Collapsible Tank And Drum (ROCTAD)
- Cliffton Adhesives Repair Kit

PRC-DeSoto Semkit

- **NSN 8030-01-290-5135**
- **Part Number PR-1826 B-1**
- **Service Temp Range -80°F**
- **Two-part, epoxy**
- **Original intent to repair internal fuel tanks on KC- and KC-10 A/C**
- **Price runs $60 per 6 ounce tube.**

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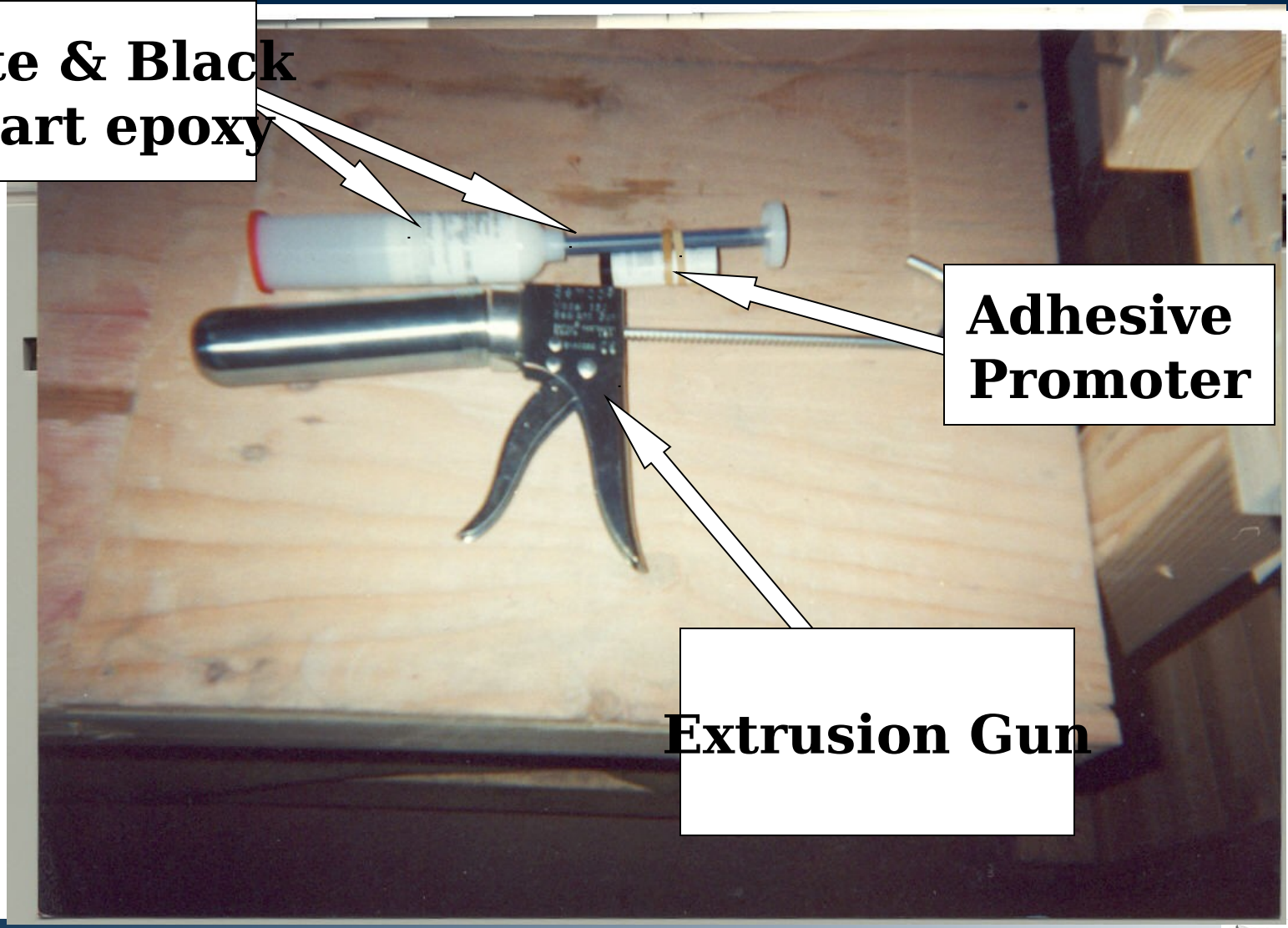
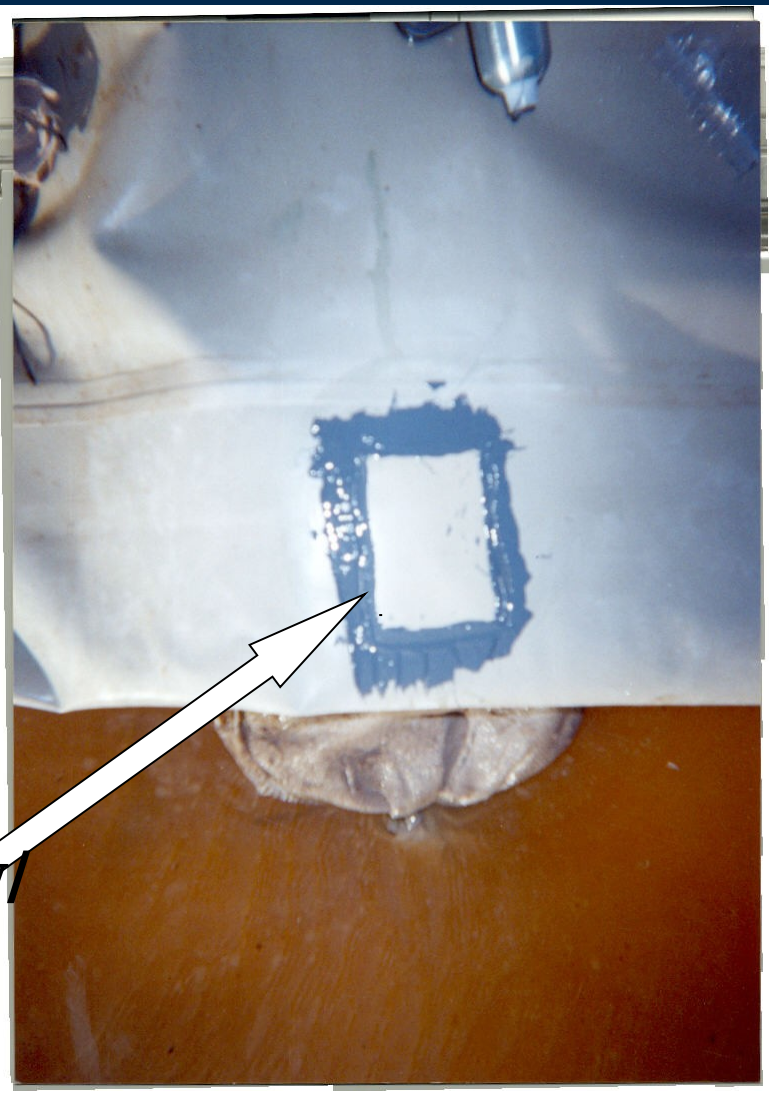
PRC-DeSoto SemKit



OIF Collapsible Tank Repair

Hole in Tank



Repair Patch w/ Semkit

OIF Collapsible Tank Repair

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OIF Collapsible Tank Repair

PRC-DeSoto Tank Repair

ROCTAD Repair Kit

- **NSN 5430-01-359-1078**
- **By Texas Boom Company, Inc.**
- **6 to 8 hours curing time.**
- **Equipped w/ all tools and materials to make repair.**
- **Price $185.00 per kit.**

ROCTAD Contents

- **Patches**
- **Surface roughing tool**
- **Hand-held roller**
- **Adhesive**
- **Stirring stick**
- **Protective gloves**
- **Adhesive applicator**
- **Protective mask**
- **Solvent cleaner**
- **Razor knife**

Clifton Adhesive, Inc.

- **Product name: LA 4009**
- **Adhesive ordered in 1 gallon cans.**
- **Accelerant ordered in 2 ounce jar.**
- **8-hour working life.**
- **Cure time 5-7 days @ room temp; 1 hr @ 212^{o}F**
- **Cost $50.00/gal & $8.00/jar**

Collapsible Tank Monitoring

Collapsible Tank Monitoring

- **Tasked by TACOM War Reserves, Mr. John Page, to capture data on collapsible fuel tanks.**

- **Document faults noted.**

- **Complete Quality Deficiency Reports**

- **Monitor tanks through operational use and as trips to the various terminals would allow.**

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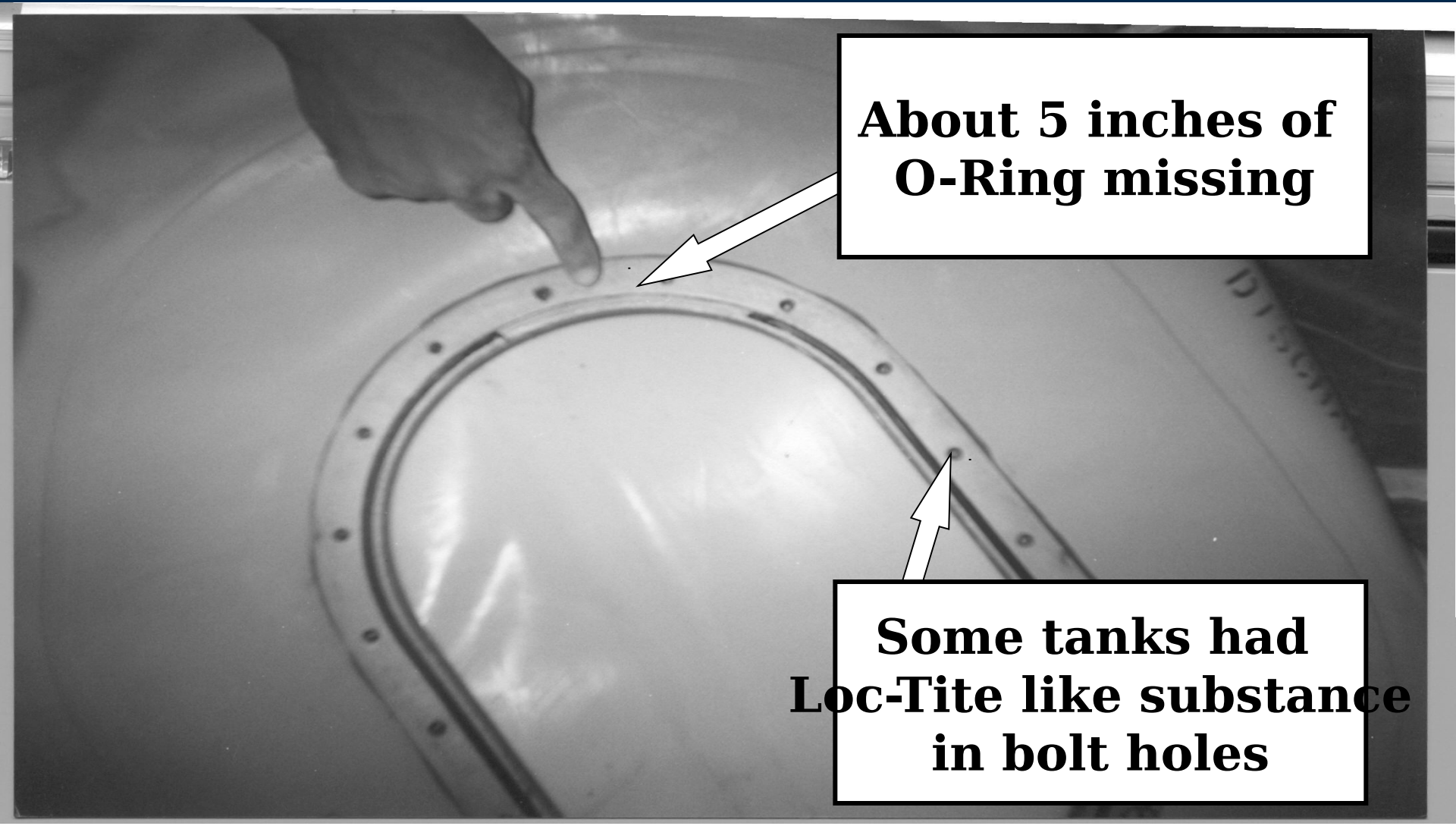
Collapsible Tank Status

- **Location**
- **Status (Green, Amber, Red)**
- **Product**
- **Manufacture**
- **Date of manufacture**
- **Serial number**
- **Wet date**
- **Contract number**
- **NSN**
- **Leak class**
- **Remarks**

Typical Tank Deficiencies

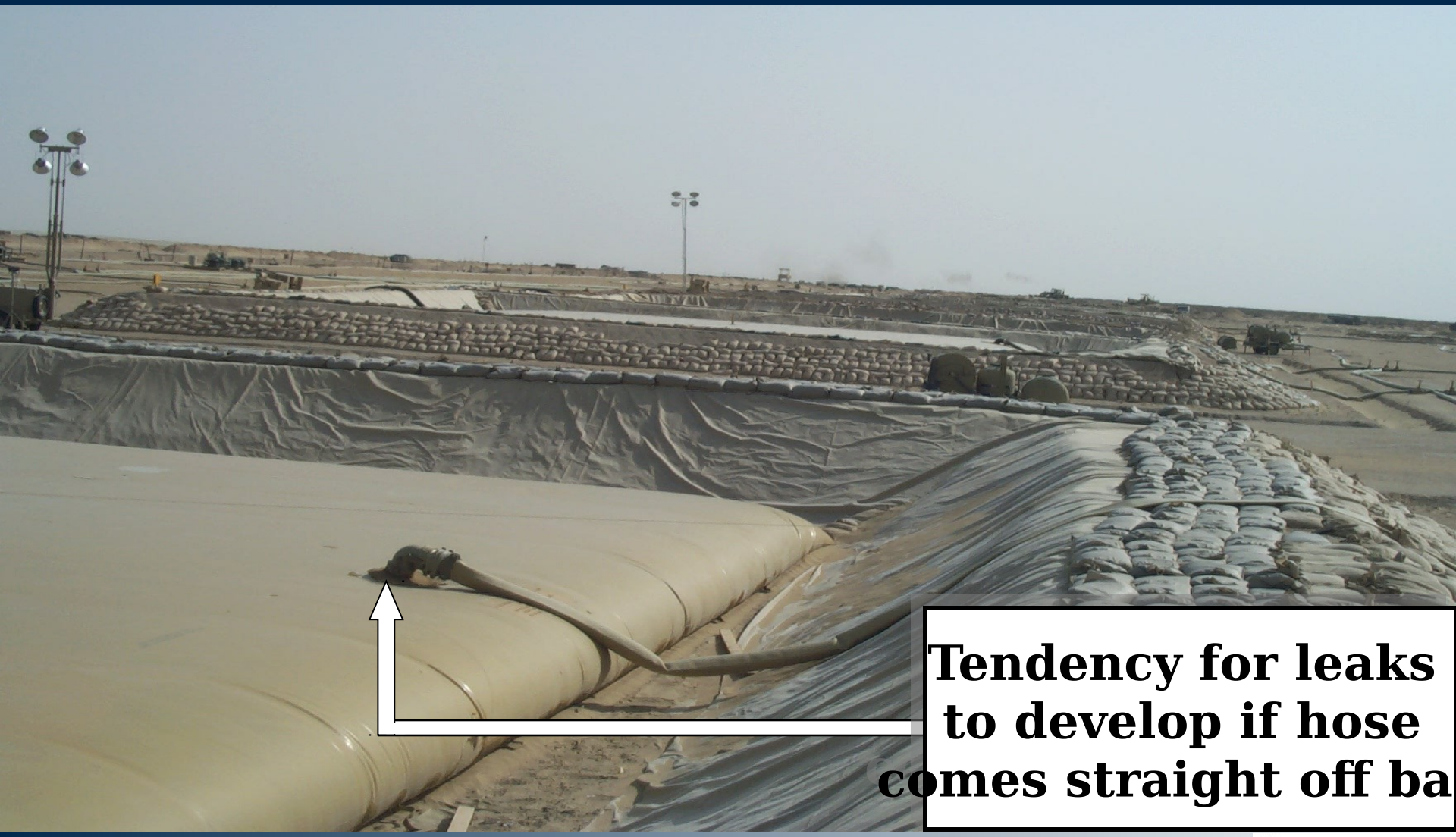
- **Numerous leaks along front and rear seams.**
- **Seepage around manhole covers and vents.**
- **Wet spots in berm indicate bottom leak.**
- **Numerous leaks rear seam.**
- **Leaks all across the front seam.**
- **Leaks top, manhole covers, all along rear.**
- **Too many leaks to count.**
- **Fuel pouring from inlet manhole cover.**

Tank Deficiencies



Tank Deficiencies

Tank Deficiencies



Example Tank Status

Site: Breach Point West
Report as of 20 April 2003
All tanks BFTAs & in JP8 service
Tanks wetted in March 2003

Brand	# Tanks	Green	Amber	
Bell Avon	22	13	4	5
Reliance	8	1	4	3
Total	30	14	8	8

Example Tank Status

Site: Cedar

Report as of 05 May 2003

All tanks BFTAs & in JP8 service

Tanks wetted in April 2003

Brand	# Tanks	Green	Amber	
Bell Avon	7	5	2	0
Reliance	17	9	3	5
Total	24	14	5	5

Example Tank Status

Site: Anaconda (Balad)

Report as of 23 August 2003

46 tanks in JP8, 1 in DF2, 1 in MOGAS service

Tanks were 50,000 gallon tanks

Brand	# Tanks	Green	Amber	
GTA	16	3	12	1
MPC	21	8	13	0
Reliance	6	1	4	1
Uni-Royal	5	1	4	0
Total	48	13	33	2

Note: Uni-Royal tanks manufactured in 1987
Other tanks manufactured 1999 - 2003

3. 5. 2003

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OIF IPDS Repair Parts

Mission: Provide 49th Quartermaster Group with repair parts support for the IPDS mainline 800 gpm pump.

Two major pushes for repair parts:

- First week of March 2003
- First week of August 2003

OIF IPDS Repair Parts

First Repair Parts Package

83 lines of repair parts requested.

- 809 items involved

Second Repair Parts Package

15 lines of repair parts requested.

- 82 items involved

OIF IPDS Repair Parts

First Repair Parts Package

Step 1: Put contracting vehicle in pl

- 49th Group (Rear) allocated funds.
- Southern Regional Contracting Center (SRCC) issued task to Radian.
- Radian elected to provide parts at cost.

OIF IPDS Repair Parts

First Repair Parts Package

Step 2: Reconciliation of parts and location of parts.

83 lines of repair parts requested.

- 23 lines on hand in desert in various IPDS containers.
- 5 lines identified at SIAD and shipped from the depot.
- 9 lines recommended to not stock.

OIF IPDS Repair Parts

First Repair Parts Package

Step 3: Research sources and generate purchase requests/purchase orders.

Step 4: Identify transportation mechanism to get parts to soldiers in Kuwait. (Ms. Stuart, Ft. Lee)

Step 5: Receive, verify, and ship parts downrange.

Step 6: Confirm receipt of parts in Kuwait.

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OIF IPDS Repair Parts Support

First Repair Parts Package Examples

	PR Gen	Rec @ Radian	Shipped to Ku
Gasket Kit, 10 ea	3 Mar 03	8 Mar 03	2
Radiator Hoses, 15 ea	27 Feb 03	3 Mar 03	
Fuel Solenoid Kit, 5 ea	3 Mar 03	18 Mar 03	
Flex Coupling, 1 ea	27 Feb 03	31 Mar 03	
Heat Exchanger, 5 ea	07 Mar 03	02 Jul 03	

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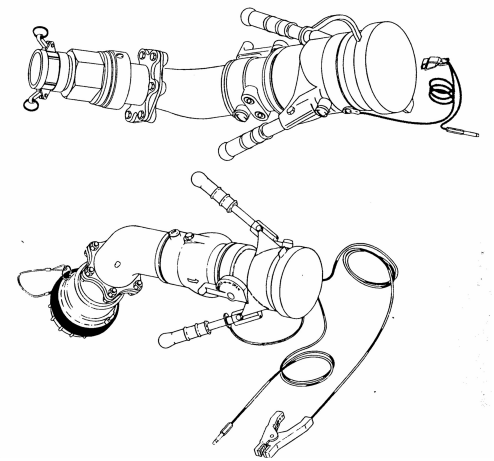
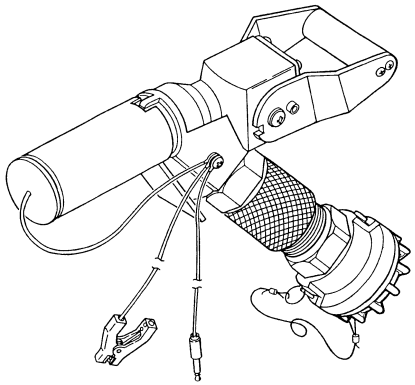
Nozzle Repair Service





- **Repair & rebuilt Carter CCR & D1 nozzles.**
- **Certified repairman (Dave Kesel) trained by JC Carter.**
- **Use only original manufacture parts.**
- **Nozzles pressure tested under flowing and static conditions IAW TM**
- **Also repair unisex couplings.**

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Nozzle Repair Example

- Radian worked closely with 3/7th Cav, 3rd ID prior to OIF

- 30 each D1 nozzles repaired
  - Total repair costs: $19,918.34
  - Cost to replace nozzles @ $2545.00/nozzle = $76,350
  - Cost avoidance = $56,431.66
  - Average cost per nozzle for 3/7th Cav = $663.94

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Lessons Learned

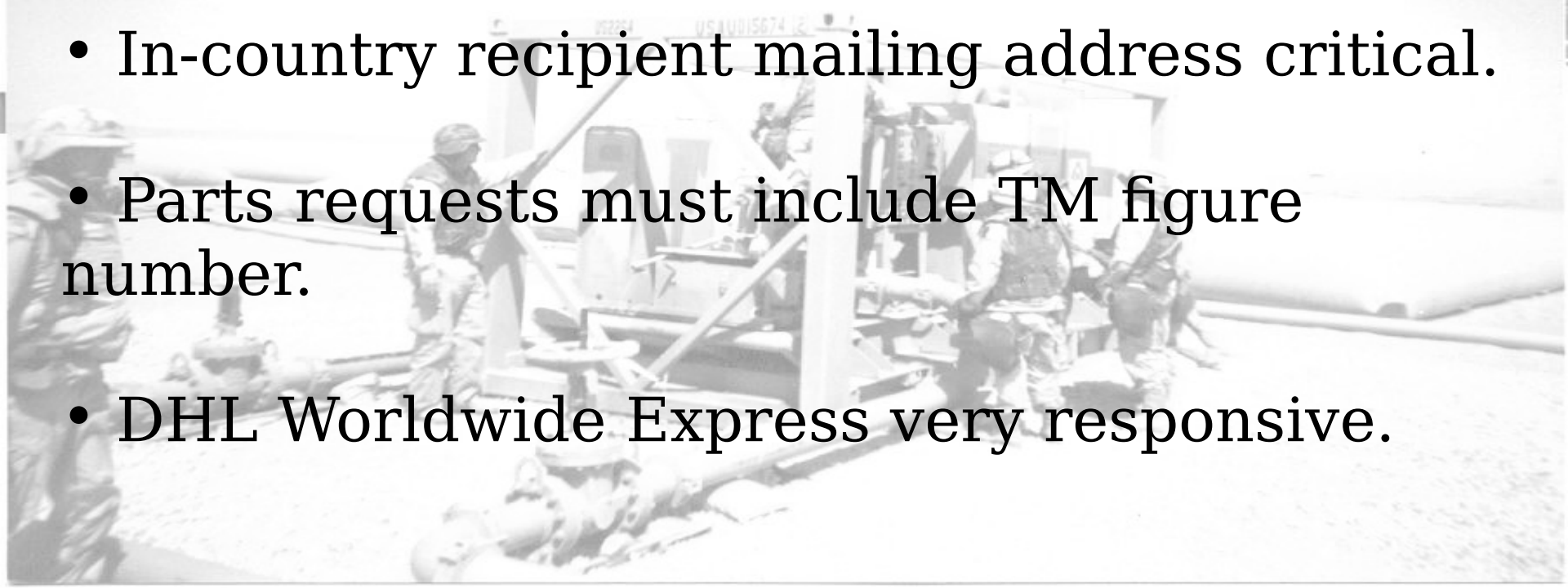
- Funding for contractor support must be resolved early.
  Probably best to link contractor support under a TACOM,
  War Reserves task order.

- Engineer Battalions (Heavy) should train on IPDS.

- Detailed 63J training should be incorporated into
  FPTM training.

Lessons Learned (continued)

- Detailed container content listing required for deploying forces.
- In-country recipient mailing address critical.
- Parts requests must include TM figure number.
- DHL Worldwide Express very responsive.



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Lessons Learned (continued)

- Review container markings for visibility of specific container on side and back.

- Changes to IPDS equipment at OCONUS sites must be included in Ft. Pickett and Ft. Lee sets (e.g. digital gages).

- Some type of combined PRC-DeSoto/ROCTAD repair kit should be fielded or made available.

Conclusion

Radian is proud to have been able to support TACOM and the soldiers of the 49th Quartermaster Group in this historic and successful employment of IPDS in support of combat operations during Operation Iraqi Freedom.